

-2-

IN THE CLAIMS:

Amended claims follow.

1. (Currently Amended) A graphics system including a scene manager, geometric processor means, renderer means, ~~hierarchical depth buffer means,~~ and a far clipping plane, said system comprising means for updating said far clipping plane based on the farthest depth value in said hierarchical depth buffer means in a z-pyramid, if the farthest depth value in the z-pyramid is nearer than a depth of the far clipping plane.
2. (Currently Amended) A graphics system, comprising:
a geometric processor;
~~a hierarchical depth buffer;~~
a renderer; and
a far clipping plane that is capable of being updated substantially based on a farthest depth value in a z-pyramid, if the farthest depth value in the z-pyramid is nearer than a depth of the far clipping plane.
3. (Original) The graphics system of claim 2, and further comprising a scene manager.
4. (Cancelled)
5. (Cancelled)
6. (Currently Amended) The graphics system of claim [5]2, wherein [the]a culling stage is coupled between the geometric processor and the renderer.
7. (Original) The graphics system of claim 2, wherein the far clipping plane is updated based on the farthest depth value.

-3-

8. (Currently Amended) A method for graphics processing, comprising:
transforming geometry utilizing a geometric processor;
performing a culling operation ~~utilizing a hierarchical depth buffer~~;
rendering utilizing a renderer; and
updating a far clipping plane as a function of a farthest depth value in a z-pyramid, if the farthest depth value in the z-pyramid is nearer than a depth of the far clipping plane.

9. (Original) The method of claim 8, wherein a scene manager is in communication with the geometric processor.

10. (Cancelled)

11. (Cancelled)

12. (Currently Amended) The method of claim [11]8, wherein [the]a culling stage is coupled between the geometric processor and the renderer.

13. (Currently Amended) A computer program product embodied on a computer readable medium for graphics processing, comprising:
computer code for transforming geometry;
computer code for performing a culling operation ~~utilizing a hierarchical depth buffer~~;
computer code for rendering; and
computer code for updating a far clipping plane as a function of a farthest depth value in a z-pyramid, if the farthest depth value in the z-pyramid is nearer than a depth of the far clipping plane.

14. (Original) The computer program product of claim 13, and further comprising computer code for managing a scene.

15. (Cancelled)

-4-

16. (New) The graphics system of claim 2, wherein the updating includes resetting the far clipping plane to the farthest depth value.
17. (New) The graphics system of claim 2, wherein the farthest depth value is included in a tip of the z-pyramid.
18. (New) The graphics system of claim 17, wherein the tip of the z-pyramid further includes a coarsest NxN tile in the z-pyramid.
19. (New) The graphics system of claim 18, wherein the tip of the z-pyramid further includes additional levels of the z-pyramid.
20. (New) The graphics system of claim 17, wherein the tip of the z-pyramid includes a low-resolution z-pyramid with lower resolution than another z-pyramid maintained by a culling stage of the graphics system.
21. (New) The graphics system of claim 17, wherein the tip of the z-pyramid includes a low-resolution z-pyramid with lower resolution than another z-pyramid maintained by a hierarchical rendering stage of the graphics system.
22. (New) The graphics system of claim 17, wherein depth values of the z-pyramid are encoded.
23. (New) The graphics system of claim 22, wherein the depth values of the z-pyramid are encoded for reducing storage requirements thereof.
24. (New) The graphics system of claim 2, wherein the updating accelerates a culling of a box since a depth of a nearest corner of the box is farther than the farthest depth value.